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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/645,489	08/22/2003	Nalin Mistry	NRT.0180US (15794ROUS02U)	8712
21906 7590 08/31/2010 TROP, PRUNER & HU, P.C. 1616 S. VOSS ROAD, SUITE 750 HOUSTON, TX 77057-2631			EXAMINER PHAN, MAN U	
			ART UNIT 2475	PAPER NUMBER
			MAIL DATE 08/31/2010	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/645,489	<b>Applicant(s)</b> MISTRY ET AL.	
	<b>Examiner</b> Man Phan	<b>Art Unit</b> 2475	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period **will** apply and **will** expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply **will**, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 09 March 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,2,4,5 and 7-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,5,7,8,10-15 and 19-23 is/are rejected.
- 7) ☒ Claim(s) 9, 16-18 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

***DETAILED ACTION***

1. This office action is in response to applicant's communication in the application of Mistry et al. for the "*Multi staged services policing*" filed 08/22/2003. This application claims priority from provisional application 60/440,625 filed 01/17/2003. The amendment and response has been entered and made of record. Claims 1-2, 4-5, 7-23 are pending in the application.

2. The applicant should use this period for response to thoroughly and very closely proof read and review the whole of the application for correct correlation between reference numerals in the textual portion of the Specification and Drawings along with any minor spelling errors, general typographical errors, accuracy, assurance of proper use for Trademarks <sup>TM</sup>, and other legal symbols @, where required, and clarity of meaning in the Specification, Drawings, and specifically the claims (i.e., provide proper antecedent basis for "the" and "said" within each claim). Minor typographical errors could render a Patent unenforceable and so the applicant is strongly encouraged to aid in this endeavor.

***Claim Rejections - 35 USC § 101***

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claim 12 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter, specifically, as directed to "a computer readable medium storing instructions" or "a software routine". The claimed "computer program product" or "software

routine” of claim 12 is non-statutory as at no time in the claim does applicant define the software routine. A computer readable storage medium per se is not in one of the statutory categories. The computer program limitation is not explicitly tied to the recited steps. Also, the claimed program product comprising a storage medium reads on non-statutory embodiments of computer readable media drawn to signals. As signals are not a tangible medium, the instant claim 12 does not recite a tangible result in a form that is useful to the user of the process.

Claim 12 is direct to “*a computer readable storage medium*” which is not supported by either a specific asserted utility or a well established utility. Claim 12 merely defines a “*data record for storing instructions*”, and is not directed to statutory subject matter. A “medium” cannot contain “instructions” as a result the medium is just instructions and therefore fails to fall within a statutory category under 101.

Since a computer program is merely a set of instructions capable of being executed by a computer, the computer program itself is not a process. In contest, a claimed computer-readable medium encoded with a data structure defines structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure's functionality to be realized, and is thus statutory. Therefore, it is suggested the claims to be written as in terms of computer readable medium, stored with embodied with or encoded with a computer program or computer executable instructions.

5. Claim 12 is also rejected under 35 U.S.C. 112, first paragraph. Specifically, since the claimed invention is not supported by either a specific asserted utility or a well established utility

for the reasons set forth above, one skilled in the art clearly would not know how to use the claimed invention.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 1-2, 4, 5, 7, 8, 10-11, 22-23, are rejected under 35 U.S.C. 103(a) as being unpatentable over Galloway et al. (US#7,155,502) in view of Davies et al. (US#7,573,817).

With respect to claims 1-2, 22-23, Galloway disclose a novel system and method for policing data traffic communications networks, according to the essential features of the claims. Galloway et al. (US#7,155,502) discloses a packet policing system comprising: receiving a traffic unit (Fig. 2; col. 6, lines 31-35; col. 11, lines 19-21); analyzing an application associated with said traffic unit (identification of traffic type (e.g., application, service, protocol) (Fig. 2;

col. 7, lines 56-59; col. 8, lines 14-40; col. 11, lines 25-35, 46-49); processing based on the analyzing (enforcing policies based on traffic type) (Fig. 2, col. 9, line 60-col. 10, line 14; Col. 11, lines 58-61; Col. 6, lines 60-64). As it's well known in the art that policing is a function for monitoring a packet flow rate, and adjusting the packet flow rate within a preset bandwidth by discarding overflow packets when the packet flow rate exceeds a predetermined bandwidth.

Galloway further teaches the bandwidth management in TCP/IP networks (*that is, policies operable to allocate available bandwidth from a single logical link to network flows*) is accomplished by a combination of TCP end systems and routers which queue packets and discard packets when some congestion threshold is exceeded. The discarded and therefore unacknowledged packet serves as a feedback mechanism to the TCP transmitter (*feedback received from the downstream service policer by the upstream service policer*) (Col. 3, lines 1 plus). It's noted that the dynamic bandwidth management of Galloway acts to regulate a policing function or policer by providing feedback that may be utilized to reduce throughput limits (i.e. based on frame size and frames per second).

In the same field of endeavor, Davies et al. (US#7,573,817) teach in Fig. 1 a block diagram illustrated method and controller for controlling an information flows including policer/sharper 104 for service policing. As can be seen from Fig. 1, the output interface 110 provides the basic functionality necessary for the onward transmission of data packets. The output interface 110 provides *flow control feedback* on lines 130 to the rate limiter 108 when some external back pressure (for example, from the transmission medium) occurs. Thus, the output interface 110 transmits packets on line 142, and receives flow control signals on line 144 from the operating system or device driver (Col. 15, lines 52 – Col. 16, lines 8).

Regarding claims 4, 5, 7, 8, the reliance on a commonly known standard such as the use of Layer 2 technologies like Frame relay and ATM cell in the manner claimed would have been obvious to the artisan as a matter of the design choice. The most common approach to handling these problems has been to use an Asynchronous Transfer Mode (ATM) virtual circuit (VC) for each subscriber and to set a limit on the VC. This is known as traffic provisioning on a per subscriber line basis. This is often accomplished using layer 2 technologies like Frame relay and ATM as admitted by the Applicant as prior art (See specification, page 2). There are a number of standards used in digital telecommunications, including TCP/IP, Ethernet, HDLC, ISDN, ATM, X.25, Frame Relay, Digital Data Service, FDDI (Fiber Distributed Data Interface), T1, xDSL, Wireless, Cable Modems, and Satellite among others. Many of these standards employ different packet and/or frame formats. The term "frame" is often used in reference to encapsulated data at OSI layer 2, including a destination address, control bits for flow control, the data or payload, and CRC (cyclic redundancy check) data for error checking. The term "packet" is often used in reference to encapsulated data at OSI layer 3.

Regarding claims 10-11, they are method claims corresponding to the apparatus claims as discussed in paragraph above. Therefore, claims 10-11 are analyzed and rejected as previously discussed with respect to claims above.

One skilled in the art of communications would recognize the need for a novel system and method for services policing in data communications networks, and would apply Davies's novel use of feedback information in policing system into Galloway's system and method for policing the flows of data stream of packets for bandwidth management. Therefore, It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to

apply Davies's policing data based on data load profile into Galloway's methods apparatuses and systems facilitating distribution of updated traffic identification functionality to bandwidth management devices with the motivation being to provide a system and method for a multi staged services policing.

9. Claims 13-15, 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Galloway et al. (US#7,155,502) in view of Davies et al. (US#7,573,817) as applied to the claims above, and further in view of Buskirk et al. (US#6,901,052).

Regarding claims 13, 14, Galloway et al. (US#7,155,502) and Davies et al. (US#7,573,817) disclose the service policing data traffic as described in the paragraph 8 above. However, Galloway and Davies did not explicitly disclose wherein amend the second traffic unit resulting in an amended traffic unit including an amendment. In the same field of endeavor, Buskirk et al. (US#6,901,052) disclose in Fig. 4 a block diagram illustrated a system and method for policing multiple data flows processing, in which the editor 406 supports policing results and makes other appropriate modifications to the packet before being output from the ingress processing system 400 (*amend the traffic unit resulting in an amended traffic unit including an amendment*). The editor carries out the policing edits required by the policing engine's enforcement of a QoS as also seen in Fig. 3 (Col. 9, lines 52 plus and Col. 9, lines 20 plus).

Regarding claims 15, 19, Galloway and Davies teach the invention substantially as claimed in claims 1 and 13 above. Buskirk further teach wherein the upstream services policer is adapted to use the feedback from the downstream services policer to cause the upstream services



policer to modify analysis of further traffic units received by the upstream services policer (Col. 9, lines 52 plus and Col. 9, lines 20 plus).

Regarding claims 20, 21, Galloway and Davies teach the invention substantially as claimed in claims 13-14 above. Buskirk further teach wherein the downstream services policer affords a higher priority to traffic units received from the second upstream services policer than to traffic units received from the first upstream services policer (Fig. 6; Col. 6, lines 8 plus and col. 9, lines 59 plus).

One skilled in the art of communications would recognize the need for a novel system and method for services policing in data communications networks, and would apply Buskirk's editing process for carries out the policing edits required by the policing engine and Davies's novel use of feedback information in policing system into Galloway's system and method for policing the flows of data stream of packets for bandwidth management. Therefore, It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to apply Buskirk's system and method for policing multiple data flows and multiprotocol data flows, and Davies's policing data based on data load profile into Galloway's methods apparatuses and systems facilitating distribution of updated traffic identification functionality to bandwidth management devices with the motivation being to provide a system and method for a multi staged services policing.

***Allowable Subject Matter***

10. Claims 9, 16-18 are objected to as being dependent upon the rejected base claims, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims..

11. The following is an examiner's statement of reasons for the indication of allowable subject matter: The closest prior art of record fails to disclose or suggest where the upstream services policer is a first upstream services policer and the multi-staged services policer further comprises a second upstream services policer adapted to transmit traffic units received at the second upstream services policer to the downstream services policer based on an analysis specific to the second upstream services policer and wherein the downstream services policer affords a higher priority to traffic units received from the second upstream services policer than to traffic units received from the first upstream services policer, as specifically recited in the claims.

***Conclusion***

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The Ferguson et al. (US#7,227,840) is cited to show the high performance probabilistic rate policer.

The Davies et al. (US#7,499,400) is cited to show the information flow control in a packet network based on variable conceptual packet lengths.

The Kawano et al. (US#2005/0157728) is cited to show the packet relay device.

The Ruutu (US#2004/0068577) is cited to show the method for controlling a stream of data packets in a packet data communication network.

The Greenberg (US#2007/0086483) is cited to show the method and system for policing binary flows in a switching device.

The Ogasawara et al. (US#5,953,317) show the policing circuit and policing method.

The Wolrich et al. (US#7,751,402) show the method and apparatus for gigabit packet assignment for multithreaded packet processing.

The Hooper et al. (US#7,480,706) show the multi threaded round robin receive for fast network port.

The Vyas et al. (US#7,215,674) show the supporting applications sensitive to data loss on switched virtual circuit (SVCs).

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION THIS ACTION IS MADE FINAL**. See MPEP ' 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this

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final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. Phan whose telephone number is (571) 272-3149. The examiner can normally be reached on Mon - Fri from 6:00 to 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dang Ton, can be reached on (571) 272-3171. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2600.

25. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have any questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at toll free 1-866-217-9197.

Mphan

Aug. 16, 2010

/Man Phan/

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Primary Examiner, Art Unit 2475